ULTRABASS BA410

User's manual

ENGLISH

Version 1.0 April 2004

www.behringer.com

BEHRINGER®
JUST LISTEN.

IMPORTANT SAFETY INSTRUCTIONS

1) Read these instructions.

2) Keep these instructions.

3) Heed all warnings.

4) Follow all instructions.

5) Do not use this speaker cabinet near water.

6) Clean only with dry cloth.

7) Before putting up the speaker cabinet, you will always have to make sure that the ground surface is absolutely firm. A surface that slightly vibrates is unsafe for the cabinet, therefore: the cabinet should only be put up on firm, even ground surfaces.

8) Do not put up your speaker cabinet near heat sources such as radiators, heat registers, stoves, or other devices (including amplifiers) that produce heat.

9) Only use attachments/accessories specified by the manufacturer.

10) Use only with carts, stands, tripods, brackets or tables specified by the manufacturer or sold with the cabinet. When a cart is used, use caution when moving the cart/cabinet combination to avoid injury.

11) Refer all servicing to qualified service personnel only. Servicing is required when the cabinet has been damaged in any way (e.g. when the power supply cord or plug have been damaged), when liquid has been spilled into/onto the cabinet or objects have fallen into the cabinet, the cabinet exposed to rain or moisture, does not operate normally, or has been dropped.

12) Please make sure that no objects or liquid reach the inside of your cabinet through the openings.

WARNING

THIS EQUIPMENT IS CAPABLE OF DELIVERING SOUND PRESSURE LEVELS IN EXCESS OF 90 dB, WHICH MAY CAUSE PERMANENT HEARING DAMAGE.

ULTRABASS

High-Performance 1,000-Watt Bass Cabinet with Original 4 x 10" BUGERA™ Aluminum Cone Speakers and 1" Horn Driver

- Reinforced chamber, front-ported bass cabinet for 1,000 Watts of power handling
- Original BUGERA™ HARD ATTACK Aluminum Cone Speakers
- Ultra-fast, direct response and incredible attack
- Switchable 1" custom-made horn tweeter for high-end punch
- Unique tweeter remote control via footswitch or BEHRINGER MIDI FOOT CONTROLLER FCB1010
- Input and link outputs on 1/4" TS and professional speaker connectors (compatible with NEUTRIK® SPEAKON®), impedance 4 Ohms
- Recessed carrying handles and integrated rollers for easy transportation
- Shock proof metal grille, reinforced corners and rugged carpet covering
- Exceptionally rugged construction for long life and durability
- Designed in Germany. Manufactured under ISO9000 certified management system

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FOREWORD

Dear Customer,

welcome to the team of ULTRABASS users, and thank you very much for expressing your confidence in us by purchasing the ULTRABASS BA410 .

Writing this foreword for you gives me great pleasure, because it represents the culmination of many months of hard work delivered by our engineering team to achieve a very ambitious goal: to create an outstanding bass cabinet, whose striking sound, features and quality workmanship offer a maximum in flexibility and performance. The task of designing this new loudspeaker system certainly meant a great deal of responsibility, which we assumed by focusing on you, the discerning musician. Meeting your expectations also meant a lot of work and night shifts. But it was fun, too. Developing a product usually brings a lot of people together, and what a great feeling it is when all who participated in such a project can be proud of what they've achieved.

It is our philosophy to share our enjoyment with you, because you are the most important member of the BEHRINGER team. With your highly competent suggestions for new products you've made a significant contribution to shaping our company and making it successful. In return, we guarantee you uncompromising quality as well as excellent technical and audio properties at an extremely reasonable price. All of this will enable you to give free rein to your creativity without being hampered by budget constraints.

We are often asked how we manage to produce such high-quality equipment at such unbelievably low prices. The answer is quite simple: it's you, our customers! Many satisfied customers mean large sales volumes enabling us to get better purchasing terms for components, etc. Isn't it only fair to pass this benefit on to you? Because we know that your success is our success too!

I would like to thank all of you who have made the ULTRABASS BA410 possible. You have all made your own personal contributions, from the developers to the many other employees at this company, and to you, the BEHRINGER user.

My friends, it's been worth the effort!

Thank you very much,

Uli Behringer

TABLE OF CONTENTS

1. INTRODUCTION 5

1.1 Shipment 5
1.2 Initial operation 5
1.3 Warranty 5

2. CONTROL ELEMENTS AND CONNECTIONS 5

3. APPLICATIONS 6

4. INSTALLATION 8

4.1 Audio connections 8

5. SPECIFICATIONS 8

6. WARRANTY 9

WARNING!

☞ **The BA410 can generate extremely high volume levels. Please bear in mind that high sound pressure can not only fatigue but also permanently damage your hearing. Always make sure to adjust your speaker cabinet to an appropriate volume level.**

1. INTRODUCTION

Thank you for expressing your confidence in our products by purchasing the BEHRINGER ULTRABASS BA410. The BA410 is a premium, unusually powerful bass cabinet that was specially developed for deep and responsive sound reproduction.

The special BUGERA™ aluminum cone speakers used in the BA410 guarantee amazingly direct attack and impulsive bass. Add to that the unbelievable power of 1,000 Watts, the outstanding workmanship and good tranpsortability thanks to the integrated rollers. All these characteristics make the ULTRABASS BA410 an absolutely high-value, dependable companion on the stage, in the studio or in your practice room.

1.1 Shipment

The BA410 was carefully packed at the assembly plant to assure secure transport. Should the condition of the cardboard box suggest that damage may have taken place, please inspect the unit immediately and look for physical indications of damage.

☞ **Damaged equipment should NEVER be sent directly to us. Please inform the dealer from whom you acquired the unit immediately as well as the transportation company from which you took delivery. Otherwise, all claims for replacement/repair may be rendered invalid.**

☞ **Always use the original packing carton to prevent damage during storage or transport.**

☞ **Never let unsupervised children play with the ULTRABASS or with its packaging.**

☞ **Please dispose of all packaging materials in an environmentally friendly fashion.**

1.2 Initial operation

Connect the ULTRABASS BA410 to a power amplifier using the speaker connectors located in the back.

☞ **Please make sure to completely lower the volume on your amp before connecting it to the BA410.**

1.3 Warranty

Please take a few minutes and send us the completed warranty card within 14 days of the date of purchase. You may also register online at www.behringer.com. The serial number needed for the registration is located in the back of the unit. Failure to register your product may void future warranty claims.

2. CONTROL ELEMENTS AND CONNECTIONS

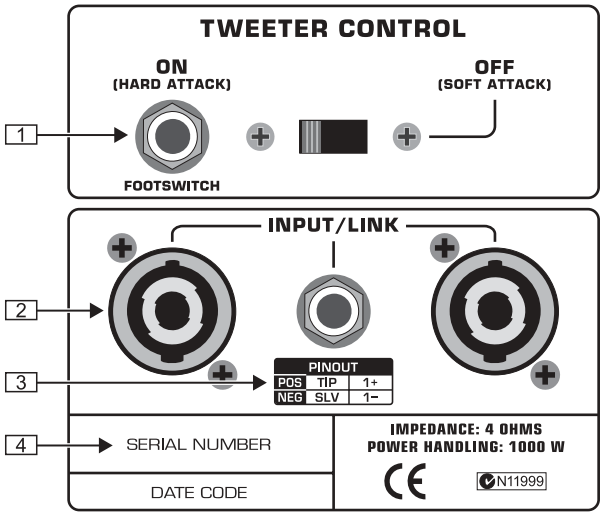

Fig. 2.1.: Control elements and connections

1 You can connect a footswitch (e.g. MIDI FOOT CONTROLLER FCB1010) to this 1/4" TS connector to remotely enable/disable the tweeter. When the tweeter is enabled, you get a harder, more direct sound (Hard Attack). When the tweeter is disabled, the entire sound spectrum is reproduced only on the bass speakers (Soft Attack).

2 The loudspeakers of the ULTRABASS series feature a 1/4" TS connector in the *INPUT/LINK* section as well as two professional speaker connectors (compatible with NEUTRIK® SPEAKON®). All connectors are wired in parallel, which means that all three connections are identical in their function. Therefore, you can connect a second speaker to the link connector output without going directly to the amplifier. This way, you can utilize short cables and will require no additional connectors on your amp.

☞ **Connecting several ULTRABASS cabinets via the link connector reduces the input impedance: if you connect two identical speakers, the impedance is reduced to one half of the original value, with three speakers to a third, and so on. Therefore, always keep in mind the impedance value of your amplifier to avoid causing damage by overloading. Ideally, the impedance of your speakers corresponds to the impedance of your amplifier. If the speaker has a higher impedance than the amplifier, this will have no negative consequences on the amp, but it won't be able to pass its full power to the speaker. See chapter 4. "INSTALLATION" for more information.**

☞ **Attention! Never connect two amps to <u>one</u> BA410. Otherwise, you may destroy both your amps and your speakers.**

3 This table shows the correct polarity of the connectors:

Plus pole (POS) = Tip (TIP) on the stereo jack or 1+ on the professional speaker connector.

Minus pole (NEG) = Sleeve (SLV) on the stereo jack or 1- on the professional speaker connector.

☞ **Please observe the illustrations 4.1 and 4.2.**

4 *SERIAL NUMBER*. Please take a few minutes and send us the completed warranty card within 14 days of the date of purchase; failure to do so may void future warranty claims. You may also register online at www.behringer.com.

3. APPLICATIONS

With a variety of connectors and the option to combine your BA410 with other BEHRINGER equipment, there is a large number of possible applications for your ULTRABASS. The following illustrations show a few of those.

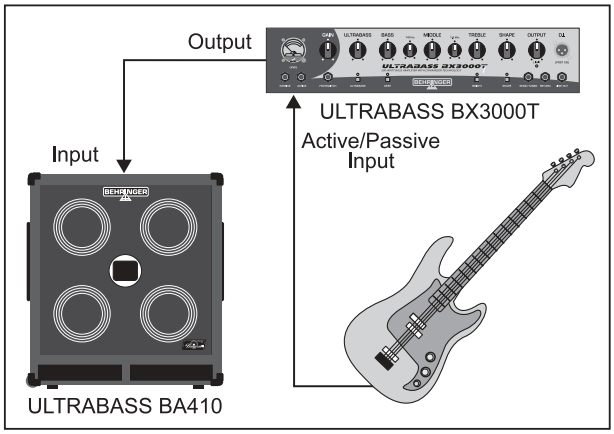

Fig. 3.1: Mono setup with the ULTRABASS BX3000T

This illustration shows a simple setup with the BEHRINGER ULTRABASS BX3000T bass amplifier. This setup is particularly well suited for practice rooms and smaller venues. On larger stages, you can connect it to a mixing console via the DI Out connector. The equipment can be quickly assembled and disassembled, yet it is amazingly flexible.

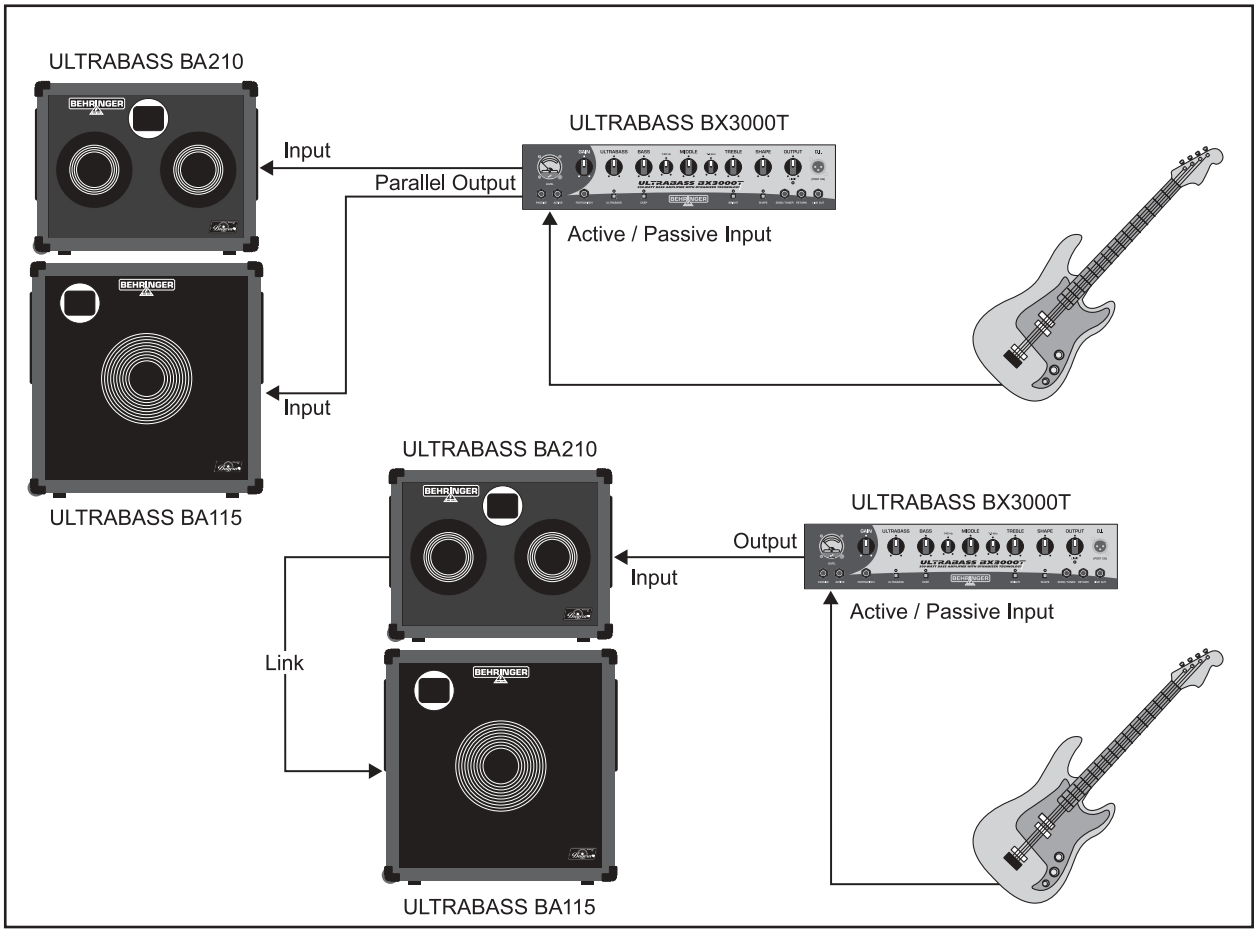

Fig. 3.2: Expanded mono setup with different connectivity options for loudspeakers

This setup is recommended for gigs or practice with bigger bands. Here, two different cabinet are combined into a stack. Speaker connection is either done separately, so that each cabinet is connected to a separate ULTRABASS BX3000T output, or by connecting only one cabinet directly to the amplifier, whereby the signal is fed into the second cabinet with a cable (Link). Also see 2.

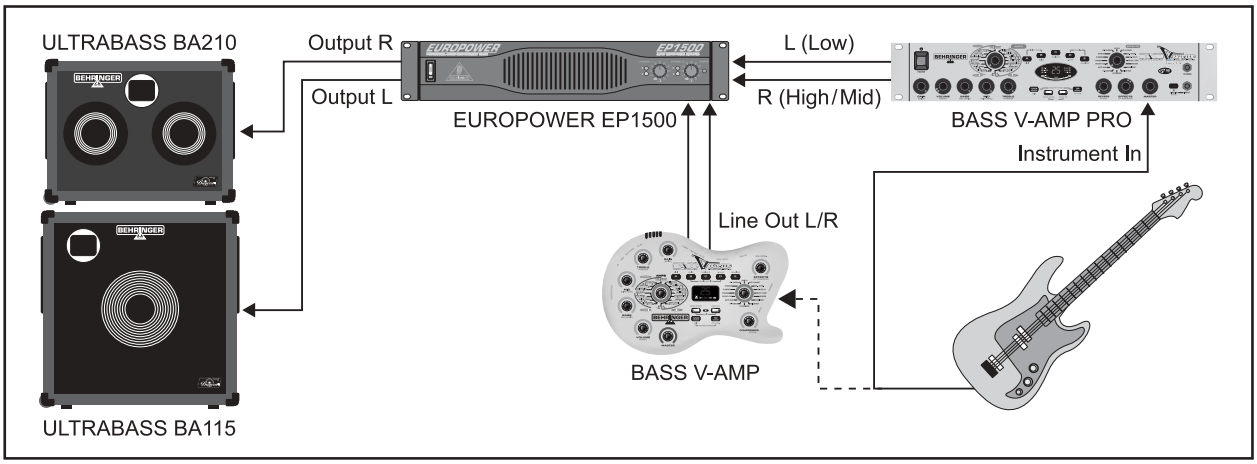

Fig. 3.3: Bi-amping: high and low frequencies are separately resproduced by the bass cabinets

When using the BASS V-AMP or the BASS V-AMP PRO, you also have the option of using bass cabinets in the bi-amping mode. With bi-amping, high and low frequency ranges are split between different bass cabinets, so that the entire sound spectrum is not simultaneously reproduced on all speakers. In fig. 3.3, low-end signals are reproduced on the BA115, while the mids and the highs are reproduced on the BA210. Splitting the frequency range requires an active crossover.

The BASS V-AMP and the BASS V-AMP PRO already feature one such function. Here, the frequencies are split in such a way that the low-end signals are reproduced on the left channel, and the mids and the highs are reproduced on the right channel. How to make the necessary settings on the crossover (X-OVER function) is explained in chapter 6.3 (post amp effects) in the BASS V-AMP/BASS V-AMP PRO manual.

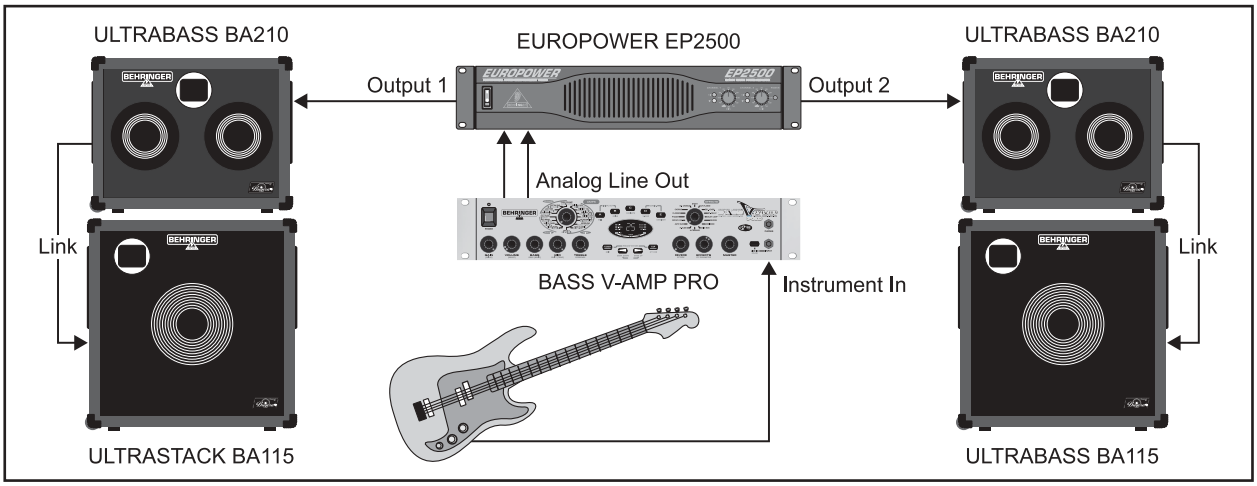

Fig. 3.4: Expaned stereo configuration

This stereo setup is meant for all those who crave a saturated stereo sound. Together with the BASS V-AMP or the BASS V-AMP PRO, stereo effects such as Chorus or Delay truly come alive. Real stereo effects require two separate cabinets set up to run in stereo. Our EUROPOWER EP2500 is perfect in the amplifier role. Additionally, with its 2 x 1,200 Watts, it has the necessary headroom to truly rock.

This is the expansion to the setup shown in fig. 3.3. Instead of powering two individual cabinets, the amp in fig. 3.4 powers each of the two stacks comprised of the BA115 and the BA210 cabinets. The cabinets are connected to one another using a link cable. Here, too, we recommend using only professional loudspeaker cables (compatible with NEUTRIK® SPEAKON®).

4. INSTALLATION

4.1 Speaker connector

When combining several speakers/cabinets, you should bear in mind the resulting overall impedance. Here are some brief explanations about different kinds of connections:

Serial connection: The individual impedance values of the connected speakers are added up. If two 4-Ohm speakers are connected to one another, there is an overall impedance value of 8 Ohms.

Parallel connection: If speaker/cabinets with identical impedance values are connected in parallel, the overall nominal impedance is reversely proportional to the number of speakers, e.g. if you connect two speakers/cabinets, the nominal impedance is halved; if you connect three speakers/cabinets, the nominal impedance is one third of the individual speakers' impedance; with four speakers, it's one quarter, and so on. For example, this way you can turn two 8-Ohm systems into one 4-Ohm system.

If four or more speakers/cabinets need to be connected, this can be done using a **serial parallel connection**. With four speakers with an impedance value of 4 Ohms each, the resulting overall impedance does not change.

☞ **Whenever possible, try to use thick and short speaker cables to minimize power loss. Don't lay output cables near input cables.**

Wiring options for loudspeakers are additionally explained in the following illustrations and tables.

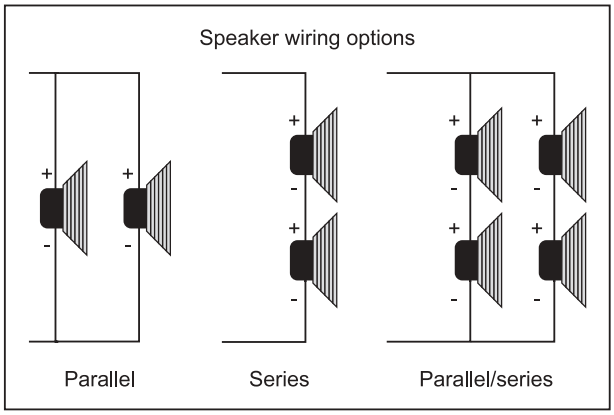

Fig. 4.1: Different types of connections

Number of speakers	2x	2x	2x	4x	4x	4x
Impedance of each speaker (Ω)	4	8	16	4	8	16
Resulting impedance with parallel connection (Ω)	2	4	8	1	2	4
Resulting impedance with serial connection (Ω)	8	16	32	16	32	64
Resulting impedance with serial parallel connection (Ω)	-	-	-	4	8	16

Table 4.1: Speaker wiring options and resulting impedance

☞ **Please note that if the LINK connector is utilized, the BA and BB series bass cabinets only support parallel connections.**

4.2 Audio connections

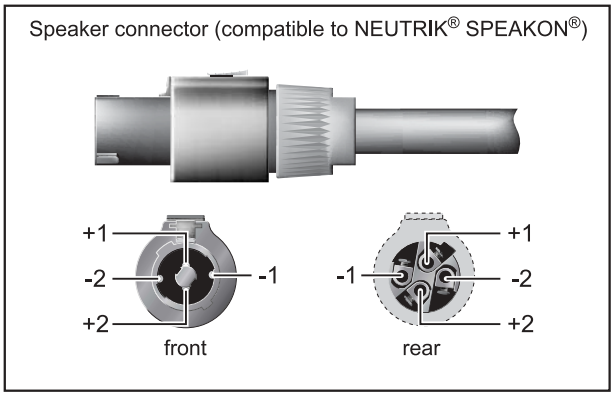

Fig. 4.2: Professional speaker connector with polarity allocation

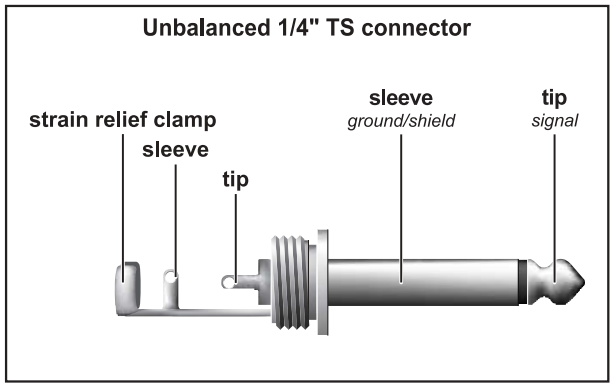

Fig. 4.3: 1/4" TS connector

5. SPECIFICATIONS

High-power bass speakers	4 x 10" BUGERA™ Aluminum cone speakers
Sensitivity	99 dB @ 1 W / 1 m
Impedance	4 Ohm
Frequency response	40 Hz - 16 kHz
Power (RMS / Music)	1,000 W
Tweeter	1" tweeter driver
SPEAKER CONNECTIONS	
Input/Link	2 professional speaker connectors, compatible with NEUTRIK® SPEAKON® (wired in parallel) as well as one 1/4" TS connector
DIMENSIONS/WEIGHT	
Dimensions (**H x W x D**)	655 mm (25 4/5") x 716 mm (28 1/5") x 407 mm (16")
Weight	ca. 45.4 kg (102 lb)

BEHRINGER is constantly striving to maintain the highest professional standards. As a result of these efforts, modifications may be made from time to time to existing products without prior notice. Specifications and appearance may differ from those listed or illustrated.

6. WARRANTY

§ 1 WARRANTY CARD/ONLINE REGISTRATION

To be protected by the extended warranty, the buyer must complete and return the enclosed warranty card within 14 days of the date of purchase to BEHRINGER Spezielle Studiotechnik GmbH, in accordance with the conditions stipulated in § 3. Failure to return the card in due time (date as per postmark) will void any extended warranty claims. Based on the conditions herein, the buyer may also choose to use the online registration option via the Internet (www.behringer.com or www.behringer.de).

§ 2 WARRANTY

1. BEHRINGER (BEHRINGER Spezielle Studiotechnik GmbH including all BEHRINGER subsidiaries listed on the enclosed page, except BEHRINGER Japan) warrants the mechanical and electronic components of this product to be free of defects in material and workmanship for a period of one (1) year* from the original date of purchase, in accordance with the warranty regulations described below. If the product shows any defects within the specified warranty period that are not excluded from this warranty as described under § 4, BEHRINGER shall, at its discretion, either replace or repair the product using suitable new or reconditioned parts. In the case that other parts are used which constitute an improvement, BEHRINGER may, at its discretion, charge the customer for the additional cost of these parts.

2. If the warranty claim proves to be justified, the product will be returned to the user freight prepaid.

3. Warranty claims other than those indicated above are expressly excluded.

§ 3 RETURN AUTHORIZATION NUMBER

1. To obtain warranty service, the buyer (or his authorized dealer) must call BEHRINGER (see enclosed list) during normal business hours **BEFORE** returning the product. All inquiries must be accompanied by a description of the problem. BEHRINGER will then issue a return authorization number.

2. Subsequently, the product must be returned in its original shipping carton, together with the return authorization number to the address indicated by BEHRINGER.

3. Shipments without freight prepaid will not be accepted.

§ 4 WARRANTY REGULATIONS

1. Warranty services will be furnished only if the product is accompanied by a copy of the original retail dealer's invoice. Any product deemed eligible for repair or replacement under the terms of this warranty will be repaired or replaced.

2. If the product needs to be modified or adapted in order to comply with applicable technical or safety standards on a national or local level, in any country which is not the country for which the product was originally developed and manufactured, this modification/adaptation shall not be considered a defect in materials or workmanship. The warranty does not cover any such modification/adaptation, irrespective of whether it was carried out properly or not. Under the terms of this warranty, BEHRINGER shall not be held responsible for any cost resulting from such a modification/adaptation.

3. Free inspections and maintenance/repair work are expressly excluded from this warranty, in particular, if caused by improper handling of the product by the user. This also applies to defects caused by normal wear and tear, in particular, of faders, crossfaders, potentiometers, keys/buttons, tubes, guitar strings, illuminants and similar parts.

4. Damages/defects caused by the following conditions are not covered by this warranty:

- ▲ improper handling, neglect or failure to operate the unit in compliance with the instructions given in BEHRINGER user or service manuals.
- ▲ connection or operation of the unit in any way that does not comply with the technical or safety regulations applicable in the country where the product is used.
- ▲ damages/defects caused by force majeure or any other condition that is beyond the control of BEHRINGER.

5. Any repair or opening of the unit carried out by unauthorized personnel (user included) will void the warranty.

6. If an inspection of the product by BEHRINGER shows that the defect in question is not covered by the warranty, the inspection costs are payable by the customer.

7. Products which do not meet the terms of this warranty will be repaired exclusively at the buyer's expense. BEHRINGER will inform the buyer of any such circumstance. If the buyer fails to submit a written repair order within 6 weeks after notification, BEHRINGER will return the unit C.O.D. with a separate invoice for freight and packing. Such costs will also be invoiced separately when the buyer has sent in a written repair order.

§ 5 WARRANTY TRANSFERABILITY

This warranty is extended exclusively to the original buyer (customer of retail dealer) and is not transferable to anyone who may subsequently purchase this product. No other person (retail dealer, etc.) shall be entitled to give any warranty promise on behalf of BEHRINGER.

§ 6 CLAIM FOR DAMAGES

Failure of BEHRINGER to provide proper warranty service shall not entitle the buyer to claim (consequential) damages. In no event shall the liability of BEHRINGER exceed the invoiced value of the product.

§ 7 OTHER WARRANTY RIGHTS AND NATIONAL LAW

1. This warranty does not exclude or limit the buyer's statutory rights provided by national law, in particular, any such rights against the seller that arise from a legally effective purchase contract.

2. The warranty regulations mentioned herein are applicable unless they constitute an infringement of national warranty law.

* Customers in the European Union please contact BEHRINGER Germany Support for further details.

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